EPILOBIUM × WISCONSINENSE, HYBR. NOV.

DONALD UGENT

The following hybrid between *Epilobium coloratum* Biehler and *E. glandulosum* var. *adenocaulon* (Haussk.) Fernald was discovered during the preparation of a treatment of the Onagraceae of Wisconsin (Ugent, 1962: 105-110). The recent series of "Preliminary Reports on the Flora of Wisconsin" reflects the efforts of Hugh H. Iltis and his students to achieve a Flora of Wisconsin, a goal set by the late Norman C. Fassett.

Epilobium × wisconsinense, hybr. nov.

Caules tetragoni, laxe dumosi-ramosi, constanter patuli-glandulosi et minute pilosi. Folia caulina petiolata, laminis longioribus 3-6.5 cm. longis, 8-21 mm. latis, anguste lanceolatis, apice acuminatis, margine excisiserrulatis vel serrulatis; petiolis 1-3 mm. longis. Flores solitarii, supraaxillares. Gemmae orbiculatae, sepalis apice ereflexis, aut reflexis, saepe intermediis. Calyces 3-4.2 mm. longi. Petala purpurea vel lilacina, 3.5-6 mm. longa. Capsulae maturae 1-3.5 (-4.5) cm. longae. Semina maxime sterilia, quibus maturis 1-1.2 mm. longis, 0.2-0.5 mm. latis, striati-papillosis; comae fuscae vel fulvae, quibus immaturis albis.

HOLOTYPUS: Polk Co., Wisconsin, edge of road in wet swamp, not common, West Sweden Tp. sec. 36, *Johnson s. n.* (WIS).

Stems loosely bushy-branched, spreading glandular pubescent as well as minutely pilose, the sides as well as the angles pubescent. Larger leaves 3-6.5 cm. long, 8-21 mm. wide, narrowly lanceolate, acuminate, closely and irregularly serrulate, on petioles 1-3 mm. long. Flowers solitary in the upper leaf axils; buds rounded, or with divergent sepal-tips, often somewhat intermediate. Calyx 3-4.2 mm. long. Petals purple or lilac, 3.5-6 mm. long. Mature capsules 1-3.5 (-4.5) cm. long. *Seeds mainly aborted*, the mature ones 1-1.2 mm. long, 0.2-0.5 mm. wide, *striate-papillose;* the coma brown or tawny, white in inmature capsules.

Southern and northwestern Wisconsin, very sporadic in

disturbed sedge-goldenrod peat marshes, spring-saturated sedge meadows, and along wet swampy roadsides, river banks, and railroad tracks. Flowering from early July to early September, and fruiting from mid-August to early September.

This hybrid resembles *Epilobium coloratum* in the sharply

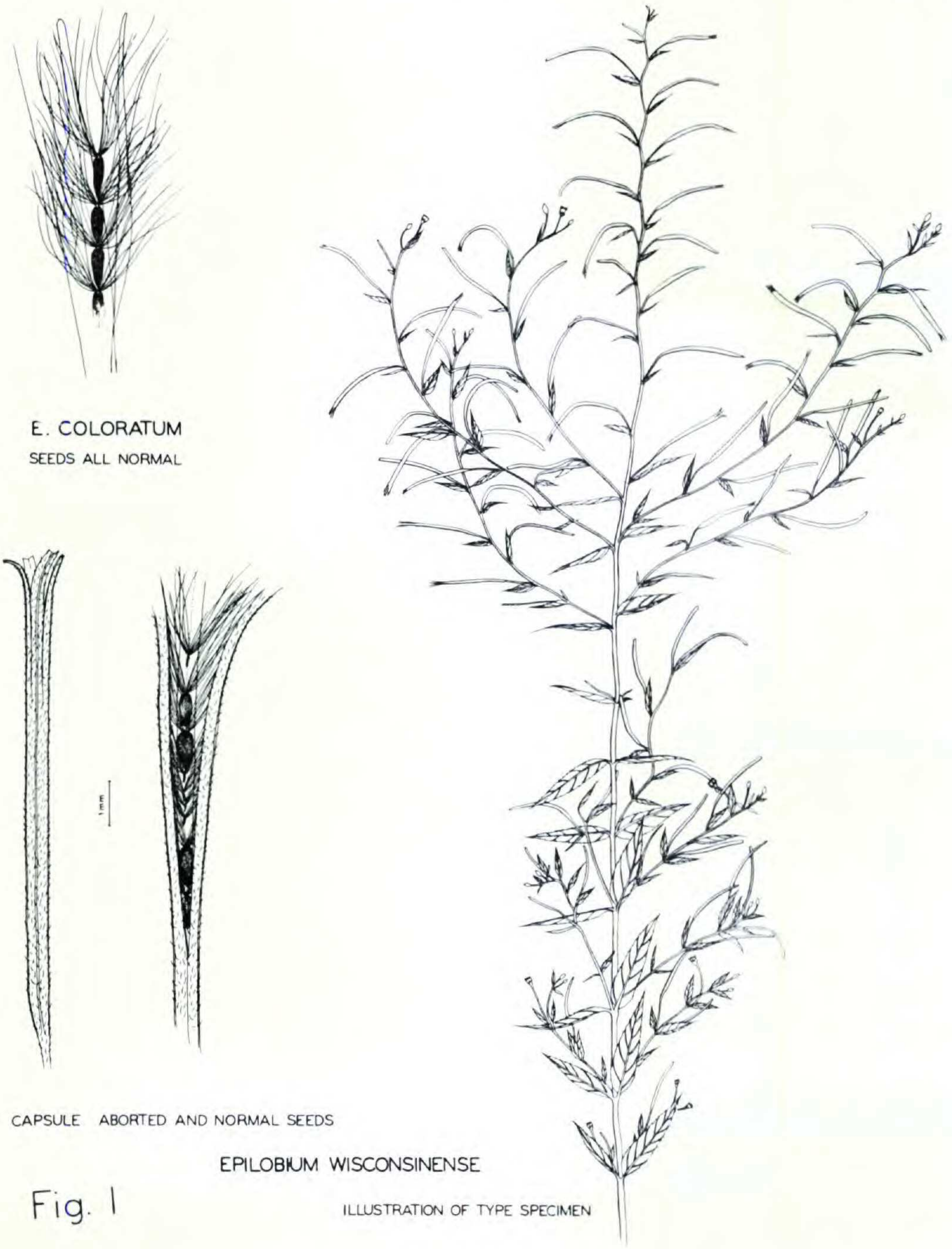


Fig. 1

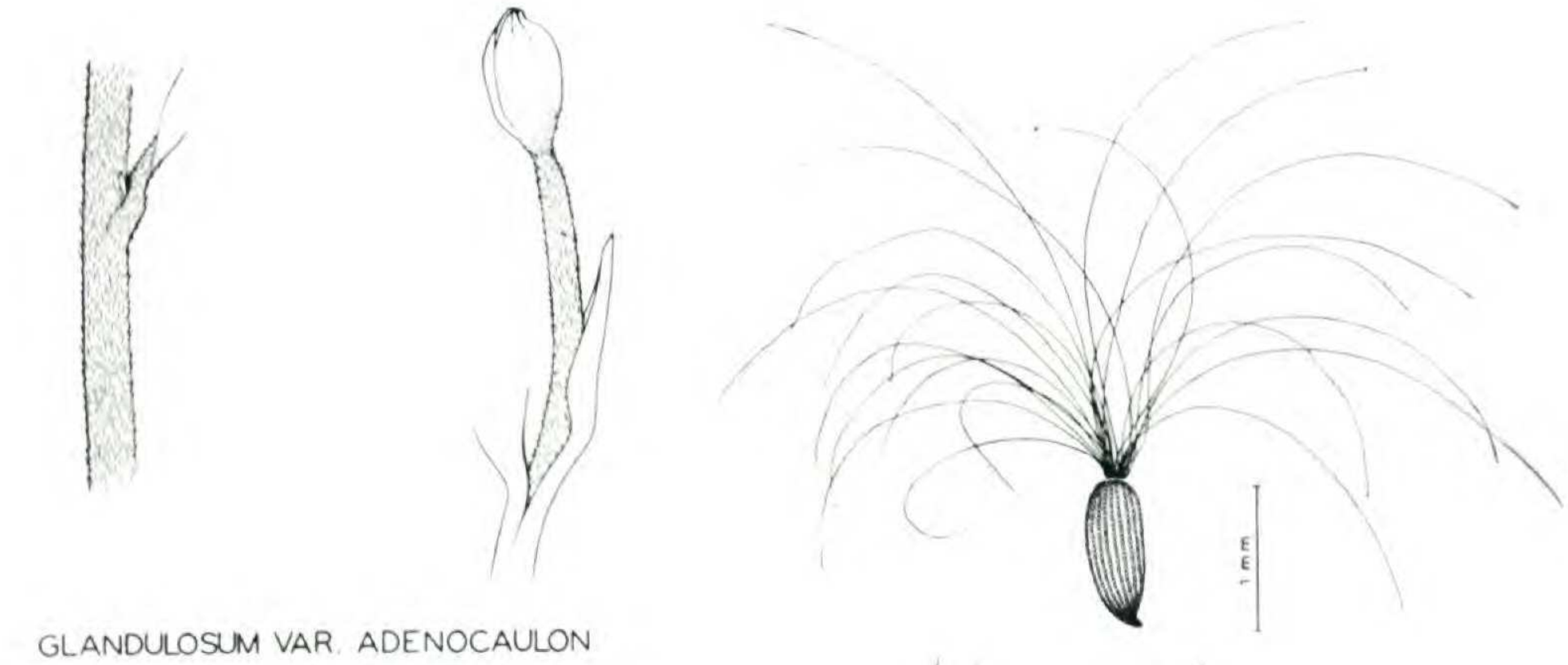


Fig. 2 STEMS, BUDS, AND SEEDS OF SOME WISCONSIN EPILOBIUMS

and irregularly serrulate leaves, the bushy-branched inflorescence (with the lower branches longer and less crowded than usual), the papillose nature of the seeds, and in the brown or tawny hairs of the coma. The pubescence of the stem and the striate character of the seeds are features definitely associated with *Epilobium glandulosum* (Fig. 2). Unlike either parent, the hybrid has short capsules containing many aborted seeds (Fig. 1). The shortness and slenderness of the hybrid capsules are no doubt due to the abnormally high amount of seed abortion, which on different plants may vary from 28% to 96% (Fig. 3).

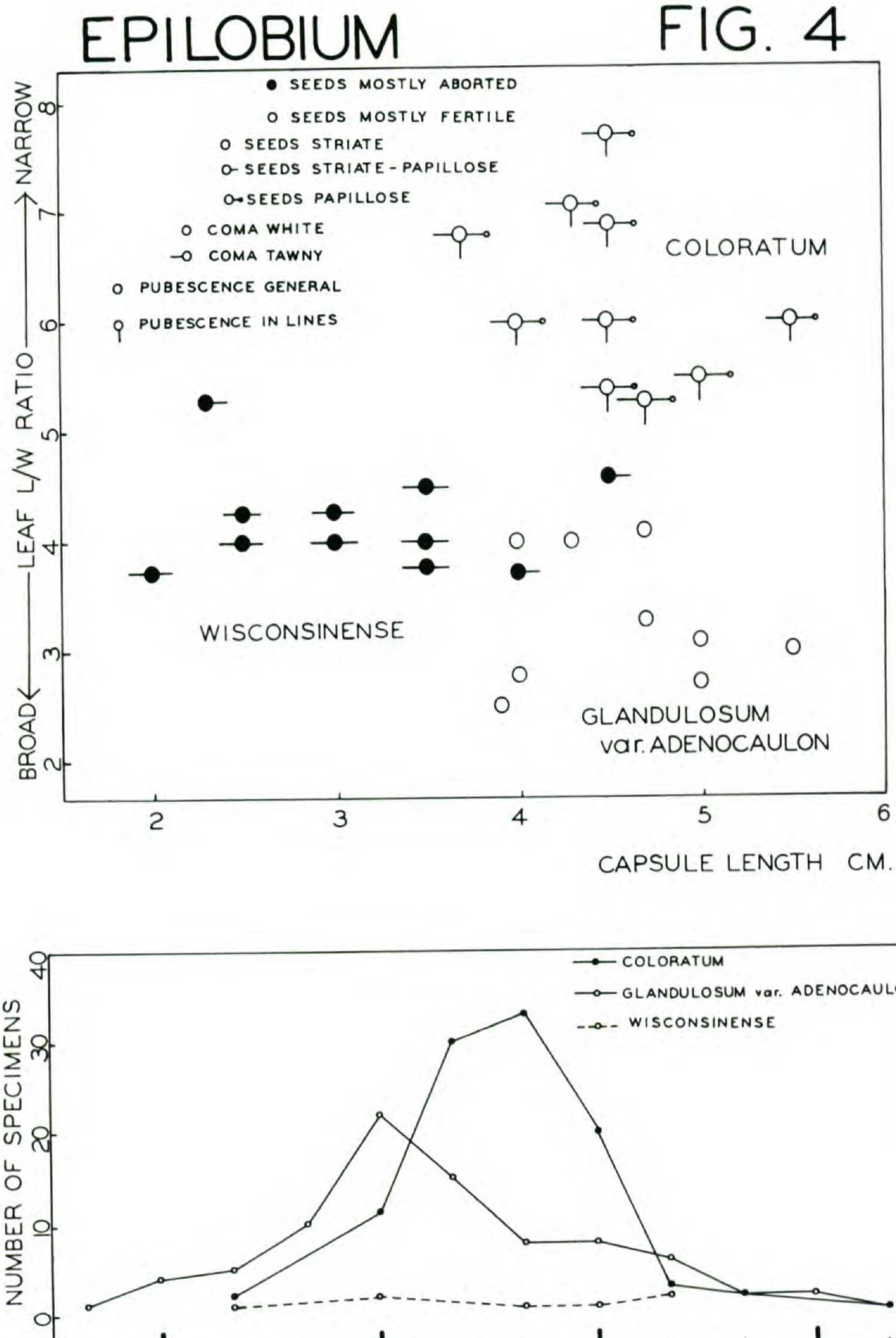
Specimen	Capsule	Number of Seeds		% Abortion
		Aborted	Mature	
Hale sine loc.	1	49	10	85
	2	83	14	
	3	55	7	
Bachman & Patrick Dunn Co.	1	110	7	94
	2	84	5	
	3	98	6	
Burger Jefferson Co.	1	18	35	27
	2	20	45	
	3	16	60	
Johnson Polk Co.	1	74	4	94
Benner Polk Co.	1	92	4	95
	TOTAL	719	197	78

Figure 3. Seed abortion in *Epilobium* × *wisconsinense*.

The scatter-diagram (fig. 4), illustrates the intermediate shape of the hybrid leaf, as well as the unique short length of its capsules.

Epilobium glandulosum var. *adenocaulon* is frequently associated with *E. coloratum*, and not uncommonly plants of both taxa have been collected together and mounted on the same herbarium sheet. When comparing the phenology of these plants, one can observe that when *Epilobium coloratum* is in flower, *E. glandulosum* var. *adenocaulon* is generally in fruit, var. *adenocaulon* flowering about two and one half weeks earlier (fig. 5). This seasonal isolation may be important in keeping these taxa relatively distinct.

It should be noted that our hybrids occur in an area where the ranges of both parent species overlap. *Epilobium glandu-*


EPILOBIUM
FIG. 4
● SEEDS MOSTLY ABORTED
O SEEDS MOSTLY FERTILE
O SEEDS STRIATE
O- SEEDS STRIATE - PAPILLOSE
O- SEEDS PAPILLOSE
O COMA WHITE
-O COMA TAWNY
O PUBESCENCE GENERAL
PUBESCENCE IN LINES
COLORATUM
WISCONSINENSE
GLANDULOSUM
var. ADENOCAULON
LEAF L/W RATIO
NARROW
BROAD
8
7
6
5
4
3
2
2
3
4
5
6
CAPSULE LENGTH CM.

COLORATUM
GLANDULOSUM var. ADENOCAULON
WISCONSINENSE
NUMBER OF SPECIMENS
0
10
20
30
40
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
FLOWERING DATE

FIG. 5

losum var. *adenocaulon* has a wide northern distribution, ranging from Alaska to Newfoundland, south to Delaware, *northern Illinois*, and, at higher elevations along the Rocky Mountains, to Colorado. *Epilobium coloratum*, a species with eastern and southeastern affinities, extends from Georgia to Kansas north to Minnesota, and across *northern Wisconsin* to southern Quebec (Fernald, 1950; Gleason, 1952).

Epilobium coloratum and *E. glandulosum* var. *adenocaulon* are both known to hybridize with other species. The following hybrids are reported in *Index Kewensis* and the Gray Herbarium Card Index: *Epilobium coloratum* × *Epilobium lineare* Muhl., *Epilobium coloratum* × *Epilobium commutatum* Haussk., and *Epilobium adenocaulon* Haussk., × *Epilobium canadense* Levl.

SPECIMENS EXAMINED. WISCONSIN: *sine loc.* [ca. 1860?] *Hale s. n.* (WIS). Dunn. Co.: railroad tracks, Menomonie, *Bachman & Patrick 7-10* (WIS). Grant Co.: Potosi, *Davis s. n.* (WIS); along streams, Boscobel, *Sylvester 13590* (MIL). Jefferson Co.: disturbed sedge-goldenrod peat marsh, Town of Sullivan, sect. 13, *Burger 152* (WIS). Lafayette Co.: Fayette, *Cheney s. n.* (WIS). Polk Co.: St. Croix Falls, *Baird s. n.* (WIS); river bank, 8 mi. north of St. Croix Falls, *Benner 363* (MINN); edge of road in wet swamp, not common, West Sweden tp. sec. 36, *Johnson s. n.* (WIS). Walworth Co.: spring-saturated sedge meadow, Delavan, *Wadmond 17439* (MINN, WIS).

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